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Thusitha Jayawardena

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CHACKO, JOE

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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/782,512	<b>Applicant(s)</b> JAYAWARDENA ET AL.	
	<b>Examiner</b> JOE CHACKO	<b>Art Unit</b> 2456	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 4/5/2010.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-8 and 10-19 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-8 and 10-19 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                                | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948)                        | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

### DETAILED ACTION

1. This office action is in response to the applicant's arguments filed on 4/5/2010. Claims 1-8 and 10-19 have been examined and are pending.

#### ***Terminal Disclaimer***

2. The terminal disclaimer filed on 4/5/2010 disclaiming the terminal portion of any patent granted on this application which would extend beyond the expiration date of any patent granted on Application Number 12/284,254 has been reviewed and is NOT accepted. The filing date for Application No. 12/284,254 cited on the Terminal Disclaimer is incorrect and appropriate correction is required.

#### ***Double Patenting***

3. A rejection based on double patenting of the "same invention" type finds its support in the language of 35 U.S.C. 101 which states that "whoever invents or discovers any new and useful process ... may obtain a patent therefor ..." (Emphasis added). Thus, the term "same invention," in this context, means an invention drawn to identical subject matter. See *Miller v. Eagle Mfg. Co.*, 151 U.S. 186 (1894); *In re Ockert*, 245 F.2d 467, 114 USPQ 330 (CCPA 1957); and *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970).

A statutory type (35 U.S.C. 101) double patenting rejection can be overcome by canceling or amending the conflicting claims so they are no longer coextensive in scope. The filing of a terminal disclaimer cannot overcome a double patenting rejection based upon 35 U.S.C. 101.

4. **Claims 1, 8 and 15** are rejected under 35 U.S.C. 101 as claiming the same invention as that of claim 1 of prior U.S. Patent No. 7,444,417 B2 to Jayawardena et al . This is a double patenting rejection.

5. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the “right to exclude” granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

6. **Claims 1, 2, 3, 8, 15** are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over **claims 1, 3, 12 and 14** of copending Application No. 12/284254 to Jayawardena et al. Although the conflicting claims are not identical, they are not patentably distinct from each other as described below.

As to **claim 1**, Jayawardena discloses an internet service provider (ISP) network comprising:

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a plurality of routers connected to provide an internet protocol network (IP) (pg.2, claim 1, "a plurality of edge routers");

a first router, of said plurality of routers (pg.2, claim 1, "...plurality of core routers adapted to allow communication"..) in communication with an internet application, said internet application having a first IP address (pg.2, claim 1, "...VPN application having a first IP address") ;

a black-hole router in communication with said plurality of routers (pg.2, claim 1, "a black hole router in communication with said plurality of core routers") , said black-hole router adapted to have a bogus IP address that is the same as said first IP address (pg.2,claim 1, " said black-hole router adapted to inject a second IP address....same IP address as the first IP address"),

said bogus IP address having a higher preference than said first IP address (pg.2, claim 1, "...a higher preference value than said first IP address") ;

wherein either one of said plurality of routers or said black-hole router is adapted to inject a black-hole route scheme into a dynamic routing protocol used by said ISP network such that selected ones of said plurality of routers route traffic to said bogus address of said black-hole router. (pg. 2, claim 1, "second IP address is injected a selected first number of edge routers direct VPN traffic addressed for said first IP address to said VPN application and a selected second number of edge routers direct VPN traffic addressed for said second IP address to said black-hole router")

As to **claims 2, 3, 8, 15**, they are rejected under the judicially created doctrine of the obvious double patenting for the same reasons as stated in the rejection of claim 1 above.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

***Examiner Comments***

7. The Examiner suggests that the Applicant should consider amending the independent claims by incorporating elements of dependent claims 3 and 6 to make these claims conform more to the invention as described in the specification.

***Response to Arguments***

8. Applicant's arguments filed 4/5/2010 have been fully considered but they are not persuasive.

a. In response to the Applicant's argument that the Munger reference does not disclose the system wherein injecting a routing instruction or a second IP address comprising a routing instruction or a second IP address comprising a routing instruction having a same IP address as a first IP address, the Examiner respectfully disagrees with the argument.

The Munger reference clearly discloses that when creating a packet, the software interleaves the normal IP packets to form a new set of interleaved payload data (this is a new packet with a new payload) (column 9, lines 36-38). Also, the Munger reference discloses that the TARP packets will include IP headers with added data and have a payload data that is similar data to the previous IP packets and sent to the TARP routers. (column 9, lines 36-49). Thus, the Munger reference does disclose the system wherein injecting a routing instruction or a second IP address (sending TARP packet with data from the normal IP packets) comprising a routing instruction or a second IP address comprising a routing instruction having a same IP address as a first IP address (TARP packet includes IP packets and their payload data and is routed to a TARP router). Therefore, contrary, to the Applicant's arguments, the Talpade reference in view of the Munger reference does disclose the limitations of the claim.

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b. In response to the Applicant's argument that the Official Notice taken to assert that the second IP address includes a preference value and has a community value such that a selected first number of edge routers direct VPN traffic addressed for said first IP address to said VPN application and a selected second number of edge routers direct VPN traffic addressed for said second IP address to said black-hole router is incorrect, the Examiner respectfully disagrees with the argument.

The "BGP" reference written by Iljitsch van Beijnum is used to give evidence to the argument that the community value and the preference value are indeed part of the BGP protocol. The Local Preference attribute is a value local to an AS communicated over intra-AS BGP sessions. BGP always prefers the route with the highest Local Preference.(page 7 of 10) The Community attribute includes one or more communities and is a 32-bit value (page 8 of 10). From the above reference does disclose the limitations of the claim.

### ***Claim Rejections - 35 USC § 103***

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

10. **Claims 1, 3, 5-8, 11-15, 17, and 19** are rejected under 35 U.S.C. 103(a) as being unpatentable over Talpade et al. (U.S. Patent Pub. No. 2004/0148520 A1) in view of Munger et al. (U.S. Patent No. 6, 618, 761 B2) in further view of BGP (Iljitsch van Beijnum, O'Reilly Media, Inc, 9/11/2002)

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As to **claim 1**, Talpade et al. discloses network comprising of: a plurality of edge routers (fig.2 , 226,228) a plurality of core routers (fig.2, 202,where core routers are parts of the ISP network, page 2, [0016]) adapted to allow communication between said plurality of edge routers; a VPN application (fig.2 , 232, analysis engine)in communication with a first one of said plurality of edge routers(, pg.2 , [0017], where the analysis engine is connected to the border router and edge router), said VPN application having a first IP address; and a discloses a black-hole router (“filter router” , fig.2 , 230) in communication with said core routers,

Talpade does not explicitly disclose the black-hole routers injecting a second IP address into the ISP VPN network and said second IP address comprising: the same address as the first IP address, a higher preference value than said first IP address and a community value such that when said second IP address is injected, a selected first number of edge routers direct VPN traffic addressed for said first IP address to said VPN application and a selected second number of edge routers direct VPN traffic addressed for said first IP address to said black-hole router

In an analogous art, Munger discloses a black-hole router (fig.2, 124-127, TARP router) in communication with said plurality of core routers, said black-hole router adapted to inject a second IP address( column 9, lines 36-45; the software in the router creates a packet that uses the IP header data from the original packet ) into said ISP VPN network, said second IP address comprising:

the same **IP** address as the first IP address ( column 9, lines 36-45; the software in the router creates a packet that uses the IP header data from the original packet ),

At the time of the invention, it would have been obvious to a person of ordinary skilled in the art to modify Talpade by incorporating a TARP router that creates a packet with the same IP address and put into the network as disclosed by Munger. The rationale behind this modification is that all the claimed elements were known in the prior art and one skilled in the art could have combined the elements as claimed by known methods with no change in their respective functions, and the combination would have yielded predictable results to one of ordinary skill in the art at the time of the invention.



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However, Talpade-Munger does not explicitly disclose the system a higher preference value than said first IP address ; and a community value such that when said second IP address is injected , a selected first number of edge routers direct VPN traffic addressed for said first IP address to said VPN application and a selected second number of edge routers direct VPN traffic addressed for said **second** IP address to said black-hole router.

In an analogous art, the BGP includes the routing information that includes a higher preference value than said first IP address (page 7 of 10) ; and

a community value such that when said second IP address is injected , a selected first number of edge routers direct VPN traffic addressed for said first IP address to said VPN application and a selected second number of edge routers direct VPN traffic addressed for said **second** IP address to said black-hole router .(page 8 of 10)

At the time of the invention, it would have been obvious to a person of ordinary skilled in the art to modify Talpade-Munger to include the preference value and the community value that is part of the BGP protocol use a tracking router to inject a static route of the packets going to the victim while still allowing the victim to receive packets . The motivation behind this modification is to use the different parts of the BGP protocol to transmit data.

As to **claim 2**, Talpade-Munger-BGP as modified does not disclose a ISP system that is a Multiprotocol Label Switching Virtual Private Network (MLS VPN).

But the Multiprotocol Label Switching is a well known protocol that is known in the art, and therefore Official Notice is taken.

At the time of the invention, it would have been obvious to a person of ordinary skilled in the art to modify Talpade-Munger to use the Multiprotocol Label switching in a VPN network which is a similar to the network used in the network. The rationale behind this modification is that a particular known technique was recognized as part of the ordinary capabilities of one skilled in the art.

As to **claim 3**, Talpade-Munger-BGP does disclose the ISP network wherein said black-hole router (Munger, "TARP router") injects said second IP address in response to a Distributed Denial of Service (DDOS) attack on said VPN application. (Munger, column 12, lines 9-11; wherein upon detection of an attack, the TARP process may also create a subprocess that maintains the original IP address and continues interaction with the attacker)

As to **claim 4**, Talpade-Munger-BGP does disclose the ISP network wherein said community value(BGP, page 8 of 10) can be changed in real-time by said black-hole router (Talpade, [0017]; upon receiving an indication of such an attack, the analysis engine in router configures one or more filter routers)

As to **claim 5**, Talpade-Munger-BGP does disclose the ISP network, wherein said ISP network utilizes dynamic routing protocols (Talpade, [0009]; "external border gateway protocol") in combination with community-based route filtering to propagate the injected second IP address to said edge routers. (Munger, column 12, lines 9-11; wherein upon detection of an attack, the TARP process may also create a subprocess that maintains the original IP address and continues interaction with the attacker)

As to **claim 6**, Talpade- Munger-BGP discloses the ISP network, wherein said second number of edge routers directs VPN traffic, addressed for said first IP address, to said black hole router( filter router), said black hole router is adapted to receive such traffic as black-holed-traffic (DDoS traffic)(Talpade, [0032]), said black-hole router adapted to analyze said black-holed traffic in order to determine a ratio of attack traffic to legitimate traffic.( Talpade, [0033], where filter router examines traffic and removes the DDoS traffic after checking to see if it is legitimate traffic.)

As to **claim 7**, Talpade-Munger-BGP discloses the ISP network where the network comprises of at least one route reflector ("traffic filter" which is a part of the

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“filter router”) each one of said route reflectors being connected to a different set of edge routers from said plurality of edge routers, said route reflectors being adapted to update said edge routers with route instructions, such route instructions including said injected second address. (Talpade et al., [0017], “filter router” advertises this updated routing information to each border router and edge router)

As to **claims 8 and 11**, these are methods corresponding to the method in claim 1. Therefore it has been analyzed and rejected based upon system in claim 1.

As to **claim 10**, this is a method corresponding to the method in claim 2. Therefore it has been analyzed and rejected based upon system in claim 2.

As to **claim 12**, Talpade.-Munger-BGP discloses the method wherein said injected instruction (routing information) is a Border Gateway Protocol (BGP) routing instruction. (Talpade et al, [0037])

As to **claim 13**, this is a method corresponding to system in claim 6. Therefore it has been analyzed and rejected based upon system in claim 6.

As to **claim 14**, this is a method corresponding to system in claim 7. Therefore it has been analyzed and rejected based upon system in claim 7.

As to **claims 15**, this is a method corresponding to the method in claim 1. Therefore it has been analyzed and rejected based upon system in claim 1.

As to **claim 16**, this is a method corresponding to the method in claim 2. Therefore it has been analyzed and rejected based upon system in claim 2.

As to **claim 17**, this is a method corresponding to system in claim 6. Therefore it has been analyzed and rejected based upon system in claim 6.

As to **claim 18**, this is a method corresponding to system in claim 4. Therefore it has been analyzed and rejected based upon system in claim 4.

As to **claim 19**, this is a method corresponding to system in claim 7. Therefore it has been analyzed and rejected based upon system in claim 7.

### ***Conclusion***

**THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to JOE CHACKO whose telephone number is (571)270-3318. The examiner can normally be reached on Monday-Friday 8:30am-5pm EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Rupal Dharia can be reached on 571-272-3913. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you

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have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/J. C./

Examiner, Art Unit 2456

/Rupal D. Dharia/

Supervisory Patent Examiner, Art  
Unit 2400